## ABSTRACT OF THE DISCLOSURE

In a semiconductor device, a semiconductor chip is mounted on an inner seat body of a heat-dissipating frame mounted on a top surface of a dielectric substrate. Each of multiple bonding wires interconnects electrically one of multiple contact pads on the semiconductor chip and a corresponding one of multiple first conductive contacts on the top surface of the substrate so as to establish electrical connection between the contact pads on the semiconductor chip and multiple second conductive contacts on a bottom surface of the substrate via the first conductive contacts and circuit traces of the substrate. An encapsulant encapsulates the bonding wires, the semiconductor chip, and the inner seat body, a portion of an outer frame body of the heat-dissipating frame, and multiple that interconnect portions interconnecting heat-conductively the inner seat body and the outer frame body.